

# Lake Iamonia Lake Vegetation Index Results

(10-3-2017)

The Lake Vegetation Index (LVI) is a multi-metric index that evaluates how closely a lake's plant community resembles one that would be expected in a condition of minimal human disturbance. It is based on a rapid field assessment of aquatic and wetland plants as indicators of various effects of human disturbance over time. Plants respond to physical disturbances such as introduction

of exotic species or lakeshore alterations, and chemical disturbance such as introduction of excess nutrients, particulates, or herbicides from the surrounding land uses.

The LVI method is performed from a boat, and involves dividing a lake into 12 units and identifying plants in 4 of the 12 units (Figure 1). Plants are identified in the selected unit by a visual boat "drive by" and also via a transect approach. The resulting data is used to calculate the LVI and is evaluated according to the scoring system in Table 1.

**TABLE 1. Category names, ranges of values for LVI, and example descriptions of biological conditions typically found for that category.**

| <i>Aquatic life use category</i> | <i>LVI Range</i> | <i>Description</i>  |
|----------------------------------|------------------|---|
| Exceptional                      | 78–100           | Nearly every plant present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance. |
| Healthy                          | 43–77            | About 85% of plant taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15%.  |
| Impaired                         | 0–42             | About 70% of plant taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive.                        |

The Lake Vegetation Index score for Lake Iamonia was 62, placing the lake's vegetative community in the healthy category.

Eighty two plant species were found during the survey. The native species, fragrant water lily (*Nymphaea odorata*) was the most dominant species. Other species include red maple (*Acer rubrum*), maidencane (*Panicum hemitomon*) and American lotus (*Nelumbo lutea*).

The exotic Chinese tallow (*Sapium sebiferum*), hydrilla (*Hydrilla verticillata*), Chinese tallow (*Sapium sebiferum*), torpedo grass (*Panicum repens*) and water hyacinth (*Eichhornia crassipes*) are all listed as

Category I Invasive Exotics by the Florida Exotic Pest Control Council <http://www.fleppc.org/> and are a concern in Lake Iamonia. Alligator weed (*Alternanthera philoxeroides*), was the lone Category II Invasive Exotic found in the lake. Additionally, the exotic water spangles (*Salvinia minima*), and burhead sedge (*Oxycaryum cubense*) were also found in the littoral zone and floating tussocks of the lake.

For a complete list of plants found during the LVI survey, please see Table 2.

**TABLE 2. Scientific and common names of the plants identified during the Lake Iamonia LVI survey (10-13-17). Names in bold are plants nonnative to Florida.**

| Scientific Name                               | Common Name             |
|---|-------------------------|
| <i>Acer rubrum</i>                            | red maple               |
| <b><i>Alternanthera philoxeroides</i>(II)</b> | alligator weed          |
| <i>Ampelopsis arborea</i>                     | peppervine              |
| <i>Andropogon virginicus</i>                  | broomsedge<br>bluestem  |
| <i>Aster</i> sp.                              | aster                   |
| <i>Azolla caroliniana</i>                     | mosquito fern           |
| <i>Baccharis halimifolia</i>                  | eastern baccharis       |
| <i>Bacopa caroliniana</i>                     | lemon bacopa            |
| <i>Bidens alba</i>                            | beggarticks             |
| <i>Bidens laevis</i>                          | smooth beggartick       |
| <i>Bidens mitis</i>                           | smallfruit beggartick   |
| <i>Boehmeria cylindrica</i>                   | false nettle            |
| <i>Brasenia schreberi</i>                     | watershield             |
| <i>Cabomba caroliniana</i>                    | fanwort                 |
| <i>Campsis radicans</i>                       | trumpet vine            |
| <i>Cephalanthus occidentalis</i>              | buttonbush              |
| <i>Ceratophyllum demersum</i>                 | coontail                |
| <i>Cyperus haspan</i>                         | haspan flatsedge        |
| <i>Cyperus odoratus</i>                       | fragrant flatsedge      |
| <i>Cyrilla racemiflora</i>                    | swamp titi              |
| <i>Decodon verticillatus</i>                  | swamp loosestrife       |
| <i>Diospyros virginiana</i>                   | common persimmon        |
| <i>Echinochloa walteri</i>                    | coast cockspur grass    |
| <b><i>Eichhornia crassipes</i> (I)</b>        | water hyacinth          |
| <i>Eleocharis baldwinii</i>                   | road-grass              |
| <i>Eupatorium capillifolium</i>               | dogfennel               |
| <i>Fuirena pumila</i>                         | dwarf umbrella<br>sedge |
| <i>Habenaria repens</i>                       | water spider orchid     |

|  |                                 |
|--|---------------------------------|
| <i>Hibiscus moscheutos</i>                 | crimson-eyed<br>rosemallow      |
| <b><i>Hydrilla verticillata</i> (I)</b>    | hydrilla                        |
| <i>Hydrocotyle</i> sp.                     | water pennywort                 |
| <i>Hypericum</i> sp.                       | St. Johns wort                  |
| <i>Ilex cassine</i>                        | dahoon holly                    |
| <i>Lachnanthes caroliniana</i>             | redroot                         |
| <i>Leersia hexandra</i>                    | southern cutgrass               |
| <i>Limnobium spongia</i>                   | frog's bit                      |
| <i>Liquidambar styraciflua</i>             | American sweetgum               |
| <i>Ludwigia arcuata</i>                    | needleleaf ludwigia             |
| <i>Ludwigia decurrens</i>                  | wingleaf primrose<br>willow     |
| <i>Ludwigia leptocarpa</i>                 | anglestem primrose<br>willow    |
| <i>Luziola fluitans</i>                    | southern watergrass             |
| <i>Lycopus rubellus</i>                    | taperleaf water<br>horehound    |
| <i>Myriophyllum pinnatum</i>               | cutleaf watermilfoil            |
| <i>Nelumbo lutea</i>                       | American lotus                  |
| <i>Nymphaea odorata</i>                    | fragrant waterlily              |
| <i>Nyssa aquatica</i>                      | water tupelo                    |
| <i>Nyssa ogeche</i>                        | Ogeechee tupelo                 |
| <i>Nyssa sylvatica</i> var. <i>biflora</i> | swamp tupelo                    |
| <b><i>Oxycaryum cubense</i></b>            | burhead sedge                   |
| <i>Panicum hemitomon</i>                   | maidencane                      |
| <b><i>Panicum repens</i>(I)</b>            | torpedo grass                   |
| <i>Pinus taeda</i>                         | loblolly pine                   |
| <i>Pluchea odorata</i>                     | sweetscent                      |
| <i>Polygonum punctatum</i>                 | dotted smartweed                |
| <i>Pontederia cordata</i>                  | pickerelweed                    |
| <i>Quercus nigra</i>                       | water oak                       |
| <i>Quercus virginiana</i>                  | southern live oak               |
| <i>Rhexia mariana</i>                      | maryland<br>meadowbeauty        |
| <i>Rhynchospora inundata</i>               | narrowfruit horned<br>beaksedge |

| Scientific Name                    | Common Name             |
|------------------------------------|-------------------------|
| <i>Rhynchospora nitens</i>         | short beaked beaksedge  |
| <i>Rhynchospora scirpoides</i>     | bald rush               |
| <i>Ricciocarpus natans</i>         | purple-fringed riccia   |
| <i>Sacciolepis striata</i>         | American cupscale-grass |
| <i>Sagittaria lancifolia</i>       | duck potato             |
| <i>Sagittaria latifolia</i>        | broadleaf arrowhead     |
| <i>Salix carolina</i>              | coastal plain willow    |
| <b><i>Salvinia minima</i></b>      | water spangles          |
| <b><i>Sapium sebiferum (I)</i></b> | Chinese tallow tree     |
| <i>Saururus cernuus</i>            | lizard's tail           |
| <i>Scirpus cyperinus</i>           | woolgrass               |
| <i>Sesbania herbacea</i>           | bigpod sesbania         |
| <i>Smilax</i> sp.                  | greenbrier              |
| <i>Solidago fistulosa</i>          | pine barren goldenrod   |
| <i>Taxodium ascendens</i>          | pond cypress            |
| <i>Taxodium distichum</i>          | bald cypress            |

|                                       |                            |
|---------------------------------------|----------------------------|
| <i>Toxicodendron radicans</i>         | eastern poison ivy         |
| <i>Triadenum virginicum</i>           | marsh st. johnswort        |
| <i>Utricularia biflora (U. gibba)</i> | humped bladderwort         |
| <i>Utricularia floridana</i>          | Florida yellow bladderwort |
| <i>Utricularia purpurea</i>           | eastern purple bladderwort |
| <i>Vitis rotundifolia</i>             | muscadine                  |
| <i>Xyris jupicai</i>                  | Richard's yelloweyed grass |

Names in bold are exotic species.

I - Category I Invasive Exotics

II - Category II Invasive Exotics

For additional information about the LVI please go to the Florida Department of Environmental Protection webpage;

[http://www.dep.state.fl.us/water/sas/training/docs/lvi\\_primer.pdf](http://www.dep.state.fl.us/water/sas/training/docs/lvi_primer.pdf). For additional information about exotic Category I and II invasive exotic plants, please go to the Florida Exotic Pest Plant Council <http://www.fleppc.org/list/list.htm>.



FIGURE 1. Lake Iamonia showing unit divisions. Circled unit numbers denote surveyed units.